

**REMARKS/ARGUMENTS**

Claims 1-7,18-23 are rejected under 35 U.S.C 102 (e) as being anticipated by Koike (US 20040150777). Claims 8-17, 24-30 are rejected under 35 U.S.C 103 (a) as  
5 being unpatentable over Koike in view of Nakano et al (US 4350729).

**1. Rejection to Claims 1 and 18:**

Claims 1 and 18 is rejected under 35 U.S.C 102 (e) as being anticipated by Koike for reasons of record, as cited on page 2 and 4 of above-indicated Office Action.

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**Response:**

Claims 1 and 18 of the present application is repeated below for reference:

“1. A display panel comprising:

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**a silicon substrate** having a plurality of pixels arranged in a pixel array thereon, each of the pixels comprising a plurality of subpixels;

a transparent substrate positioned above the silicon substrate, the transparent substrate having a top surface and a bottom surface;

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a liquid crystal layer positioned between the transparent substrate and the silicon substrate; and

**a plurality of micro color filters positioned on the top surface of the transparent substrate**, each of the micro color filters being positioned corresponding one of the subpixels.”

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“18. A display panel comprising:

**a silicon substrate** having a pixel region thereon;

a transparent substrate positioned above the silicon substrate, the transparent substrate having a top surface and a bottom surface;

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a liquid crystal layer positioned between the silicon substrate and the transparent substrate; and

**at least a color filter positioned on the top surface of the transparent substrate and corresponding to the pixel region.”**

Accordingly, the display panels of claims 1 and 18 are liquid crystal on silicon displays (LCOS display) since each of the display panels comprises a silicon substrate, which is a semiconductor material, having one or a plurality of pixels arranged in a pixel array thereon. In addition, the first paragraph of the "Description of the Prior Art" of the present application is repeated for reference:

"The difference between an LCOS display and a conventional thin film transistor-liquid crystal display (TFT-LCD) is materials used for forming substrates. Both a cover substrate and a backplane are made of glass in a TFT-LCD. Nevertheless, the cover substrate in an LCOS display is made of glass, but the backplane in an LCOS display is a semiconductor silicon substrate. Therefore, **an LCOS process combines LCD techniques and complementary metal-oxide semiconductor (CMOS) processes.**" Therefore, the LCOS display of the present application is different from conventional TFT-LCDs.

According to Koike's figures and specification, those skilled in the art could recognize that Koike only discloses a TFT-LCD device without mentioning any structures of LCOS devices. For example, many TFTs are illustrated in Fig.4, comprising gate electrodes 3, active layers 5, channel protective insulating films 6, drain electrodes 8d, and source electrodes 8c, thus Koike's disclosure is related to TFT-LCDs, not LCOS devices. In addition, with reference to Fig.13 and paragraph [0055] of Koike's application, the first substrate 1 is a glass, vitreous silica or a plastic film substrate that is not a semiconductor material. Therefore, Koike does not disclose that a liquid crystal device comprises a liquid crystal layer, picture element electrodes and are disposed **between a glass substrate and a silicon substrate** and Koike never disclose a display panel with a silicon substrate, which is a semiconductor substrate.

Key differences between the present application as claimed in the original claims 1 and 18 with Koike disclosure are indicated in bold type. As noted previously in the defense of the original claims 1 and 18, Koike discloses a liquid crystal display device of thin-film transistors. Accordingly, Koike's disclosure and the present application

are not in the same field of technique. Applicants stand for that Koike's application is not an appropriate reference for rejecting the present application.

Furthermore, according to claims 1 and 18 of the present application, **the micro color filters are positioned on the top surface of the transparent substrate, which is opposite to the silicon substrate, and therefore the micro color filters are not positioned between the transparent substrate and the silicon substrate.** It is an advantage of the micro color filters positioned on the top surface of the transparent substrate that heat generated by the micro color filters can be easily removed to maintain a preferable temperature of the display panel. In addition, the micro color filters on the top surface of the transparent substrate can substitute an AR coating so as to decrease the fabricating cost of the display panel (paragraph [0010] and [0024]). However, **the color filters (22R, 22B, 23B, 23R, 24G, 24B) of Koike's display device are positioned between the two substrates 20, 1, referring to Figs.4-7, 13, 17, 20, 25, and 28.** Therefore, the structure of Koike is different from that of the present application, and cannot provide the same advantages of maintaining good temperature and omitting AR coatings of the present application. Accordingly, claims 1 and 18 should be allowable.

In view of the above, reconsideration of the claims 1 and 18 is politely requested.

## **2. Rejection of claims 2-7, and 19-23:**

Claims 2-7, and 19-23 are rejected under 35 U.S.C 102 (e) as being anticipated by Koike for reasons of record, as recited on page 2-3 of the above-indicated Office action.

## **Response:**

As claims 2-6 and 19-23 are dependent upon claims 1 and 18 respectively, claims 2-6 and 19-23 should be allowed if claims 1 and 18 are allowed. Reconsideration of claims 2-6, and 19-23 is therefore politely requested.

Referring to claim 7 of the present application, it discloses that the micro color

filters comprise a plurality of red micro color filters, blue micro color filters, and green micro color filters, wherein each of the micro color filters is positioned corresponding one of the subpixels of each of the pixels. However, Koike does not teach that the color filters is positioned on the top surface of the transparent substrate and does not teach disposing **micro color filters comprising a plurality of red micro color filters, a plurality of blue color filters, and a plurality of green color filters in a LCOS panel**, either. Therefore, claim 7 should be allowable. Reconsideration of claim 7 is politely requested.

10 **3. Rejection of claims 8-17, 24-30:**

Claims 8-17, 24-30 are rejected under 35 U.S.C 103 (a) as being unpatentable over Koike in view of Nakano et al for reasons of record, as recited on page 4-7 of the above-indicated Office action.

15 **Response:**

As claims 8-11 and 13-17 are dependent upon claim 1 and claims 24-27 and 29-30 are dependent upon claim 18, claims 8-11, 13-17, 24-27, and 29-30 should be allowed if claims 1, 18 are allowed. Reconsideration of claims 8-11, 13-17, 24-27, and 29-30 is therefore politely requested.

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Regarding claims 12 and 28, they describes that the micro color filters are dichroic films. Those skilled in the art may understand that the "dichroic film" is referring to a thin-film capable of dividing white light into two color lights. One of the color lights may pass through the dichroic film while the other may be reflected.

25 However, in paragraph [0084] of Koike's specification, Koike only disclosed: "The second substrate 20, the red, green, and blue filters 22R, 22G, 23B, 23R, 24G, and 24B, the counter electrode 25, and the like collectively constitute a counter substrate. Note that the respective filters are configured to transmit light corresponding to the colors thereof." Therefore, Koike never directly disclose that the filter of his application is a  
30 dichroic film. In view of the above, claims 12 and 28 should be allowable, and reconsideration of claims 12 and 28 is politely requested.

**4. Introduction to new added claims 31-34:**

Claims 31-34 are added, and are not disclosed, suggested, or made obvious by the prior arts of record. Claims 31 and 33 describes that the silicon substrate in claims 1 or 18 comprise semiconductor materials, which have been mentioned on page 4, paragraph [0018] of the present application. Claims 32 and 34 describes that the display panel is an LCOS display panel, which have been mentioned on page 5, paragraph [0013] of the present application. No new matter is introduced. None of the cited prior-art applications mention an LCOS device comprising a silicon substrate and at least a color filter on a surface of another substrate opposite to the silicon substrate, thus claims 31-34 should be allowable. Acceptance and consideration of claims 31-34 is respectfully requested.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Sincerely yours,

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